DNR Drought Assessment Committee Meeting May Presentation May 20, 2003

Missouri Department of Natural Resources

Statewide Precipitation Rankings (Records:109-Year Long)

- April 2003: 39th Wettest
- Feb-Apr (Last 3-months): 42nd Wettest
- Nov-Apr (Last 6-months): 18th Driest
- Jun-Apr (Last 11-months): 11th Driest

Precipitation by Climate Division Last 30 Days

CD	% OF NORMAL
1	138
2	148
3	150
4	149
5	130
6	172
MISSOURI	144

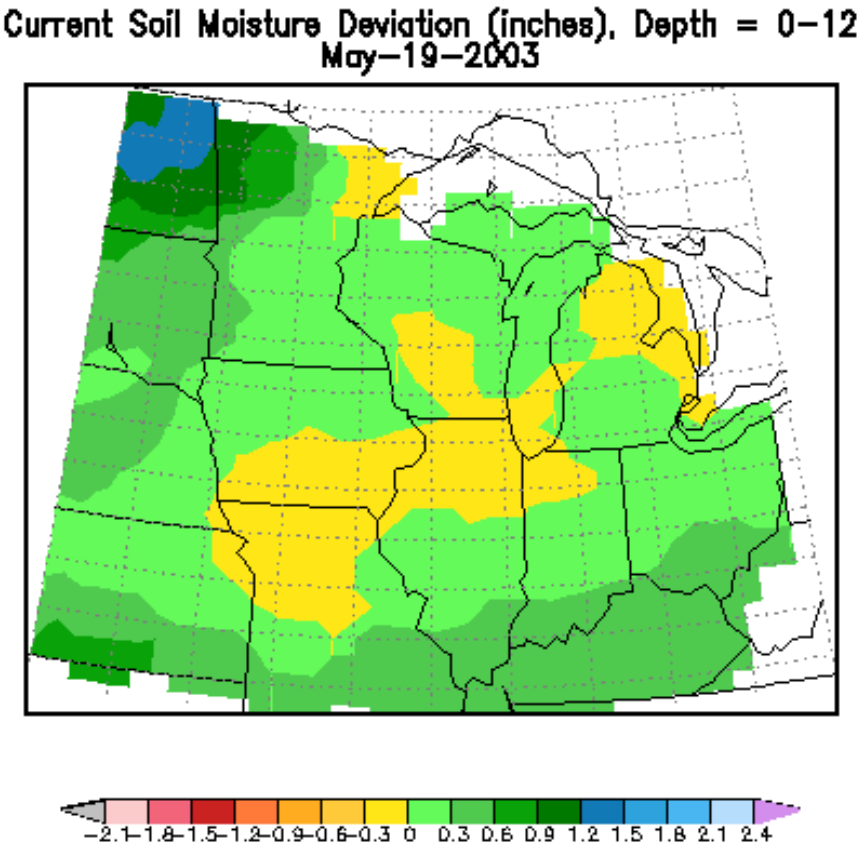
Precipitation by Climate Division Last 90 Days

CD	% OF NORMAL
1	94
2	112
3	110
4	112
5	95
6	110
MISSOURI	104

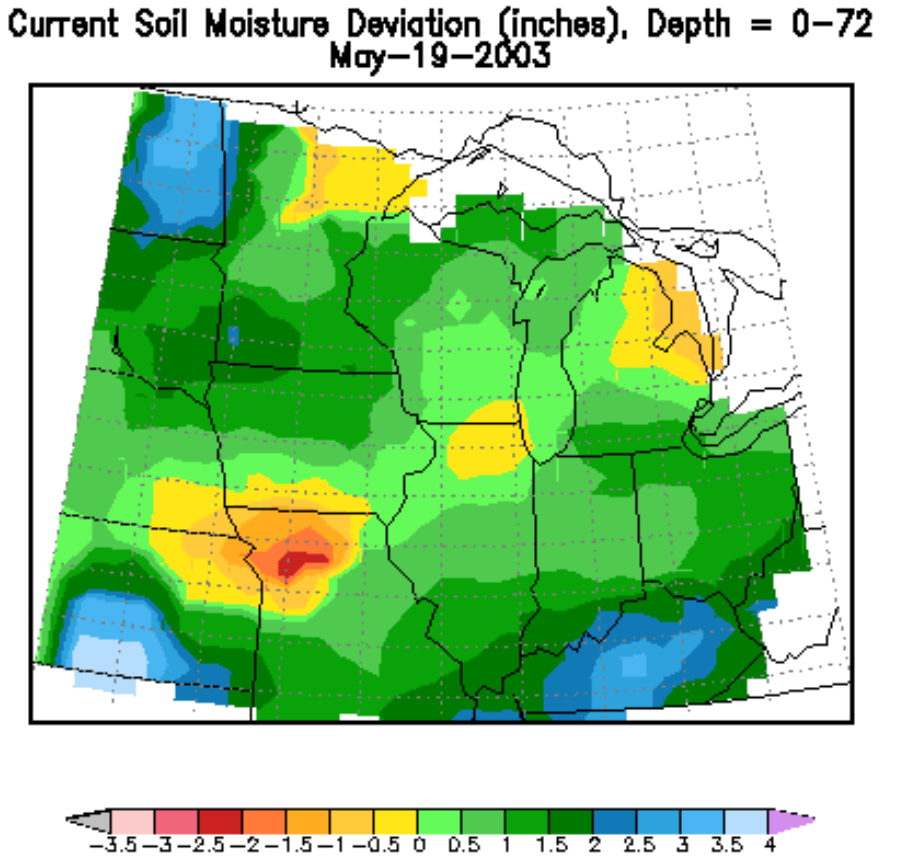
Precipitation by Climate Division Last 12 Months

CD	% OF NORMAL
1	66
2	87
3	77
4	79
5	80
6	99
MISSOURI	79

Soil Moisture Deviation (Surface to 12”)



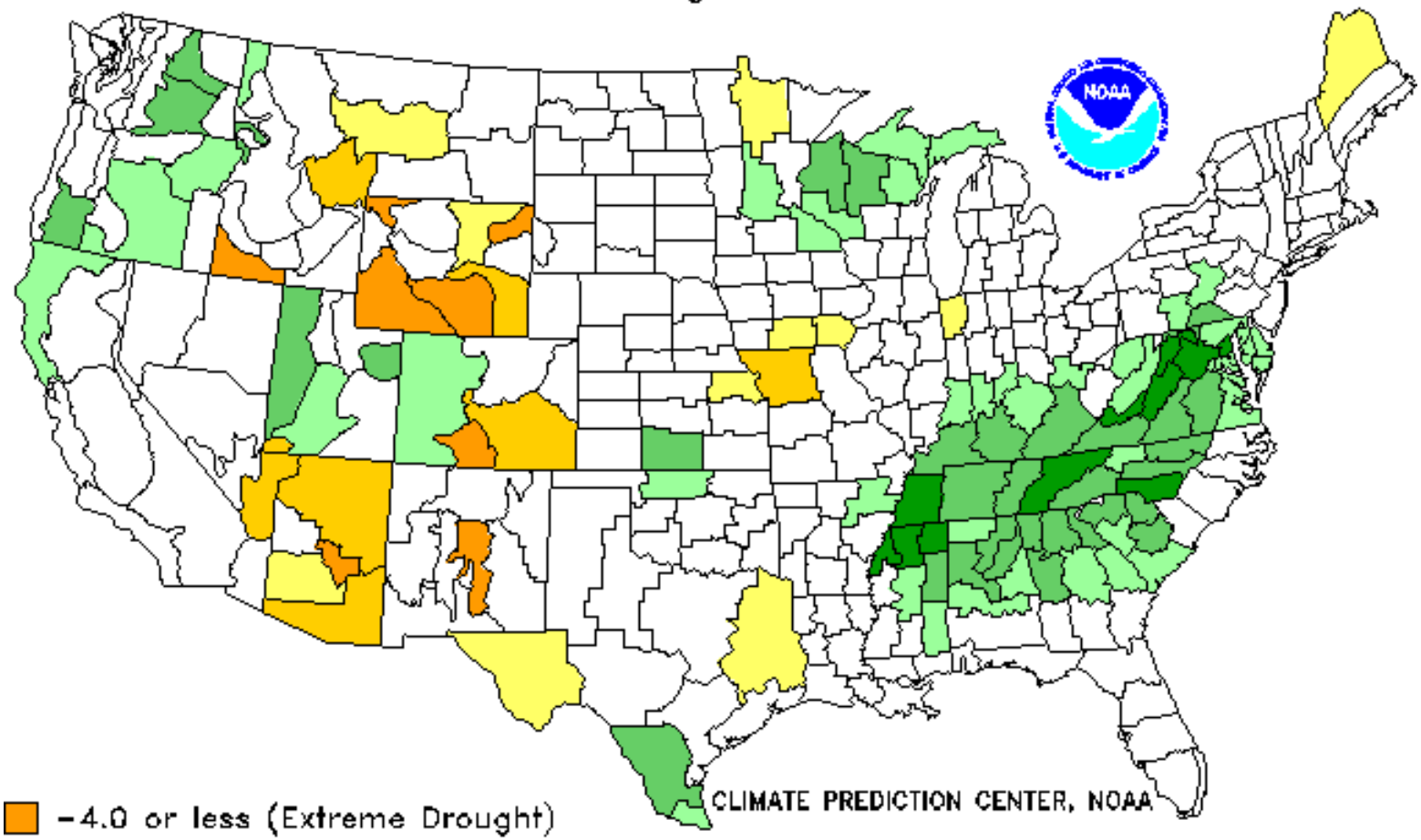
Soil Moisture Deviation (Surface to 72”)



Drought Severity Index by Division

Weekly Value for Period Ending 17 MAY 2003

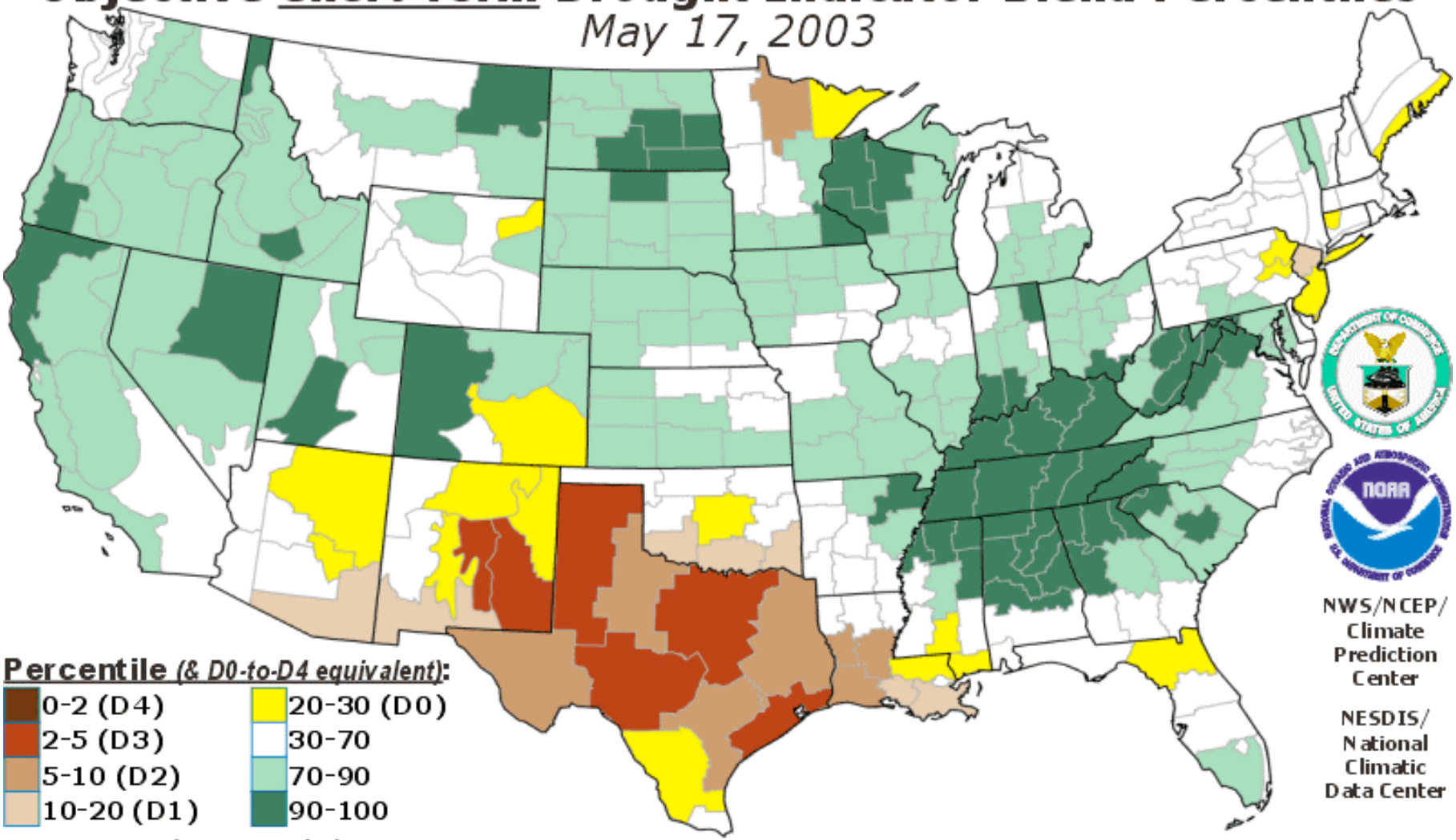
Long Term Palmer



- -4.0 or less (Extreme Drought)
- -3.0 to -3.9 (Severe Drought)
- -2.0 to -2.9 (Moderate Drought)
- -1.9 to +1.9 (Near Normal)
- +2.0 to +2.9 (Unusual Moist Spell)
- +3.0 to +3.9 (Very Moist Spell)
- +4.0 and above (Extremely Moist)

Objective *Short-Term* Drought Indicator Blend Percentiles

May 17, 2003



Percentile *(& D0-to-D4 equivalent)*:

0-2 (D4)	20-30 (D0)
2-5 (D3)	30-70
5-10 (D2)	70-90
10-20 (D1)	90-100

INPUTS (as Percentiles):

35% Palmer Z-Index
25% 3-Month Precipitation
20% 1-Month Precipitation
13% CPC Soil Model
7% Palmer Drought Index

This map approximates impacts that respond to precipitation over several days to a few months, such as agriculture, topsoil moisture, unregulated streamflows, and most aspects of wildfire danger.

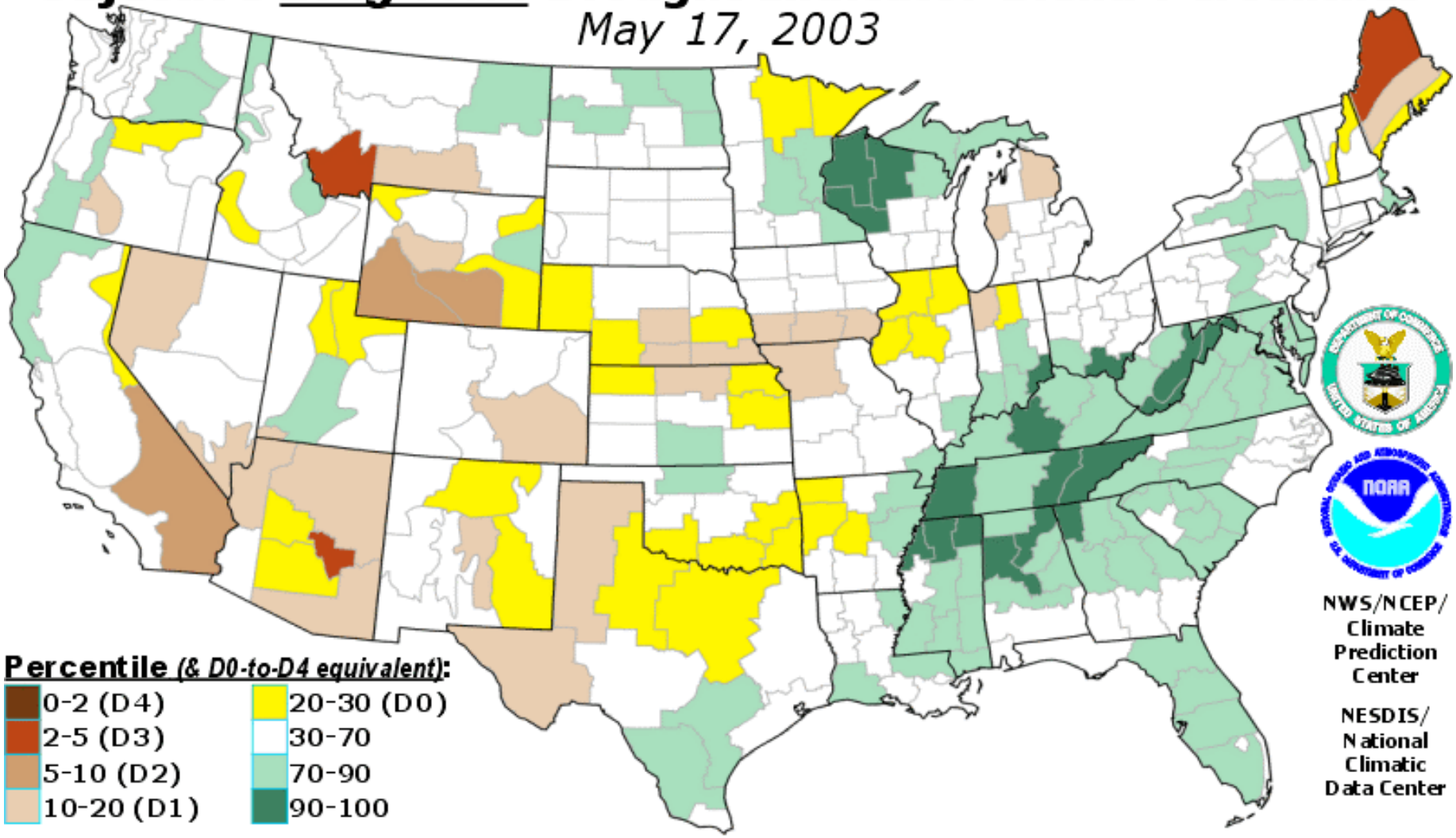
This map is based on preliminary climate division data. Local conditions and/or final data may differ. The relationship between indicators and impacts varies with location and season. Do not interpret this map too literally. See full product description for more details.

NWS/NCEP/
Climate
Prediction
Center

NESDIS/
National
Climatic
Data Center

Objective ***Long-Term*** Drought Indicator Blend Percentiles

May 17, 2003



Percentile *(& D0-to-D4 equivalent)*:

0-2 (D4)	20-30 (D0)
2-5 (D3)	30-70
5-10 (D2)	70-90
10-20 (D1)	90-100

INPUTS (as Percentiles):

25% Palmer Hydrologic Index
20% 24-Month Precipitation
20% 12-Month Precipitation
15% 6-Month Precipitation
10% 60-Month Precipitation
10% CPC Soil Model

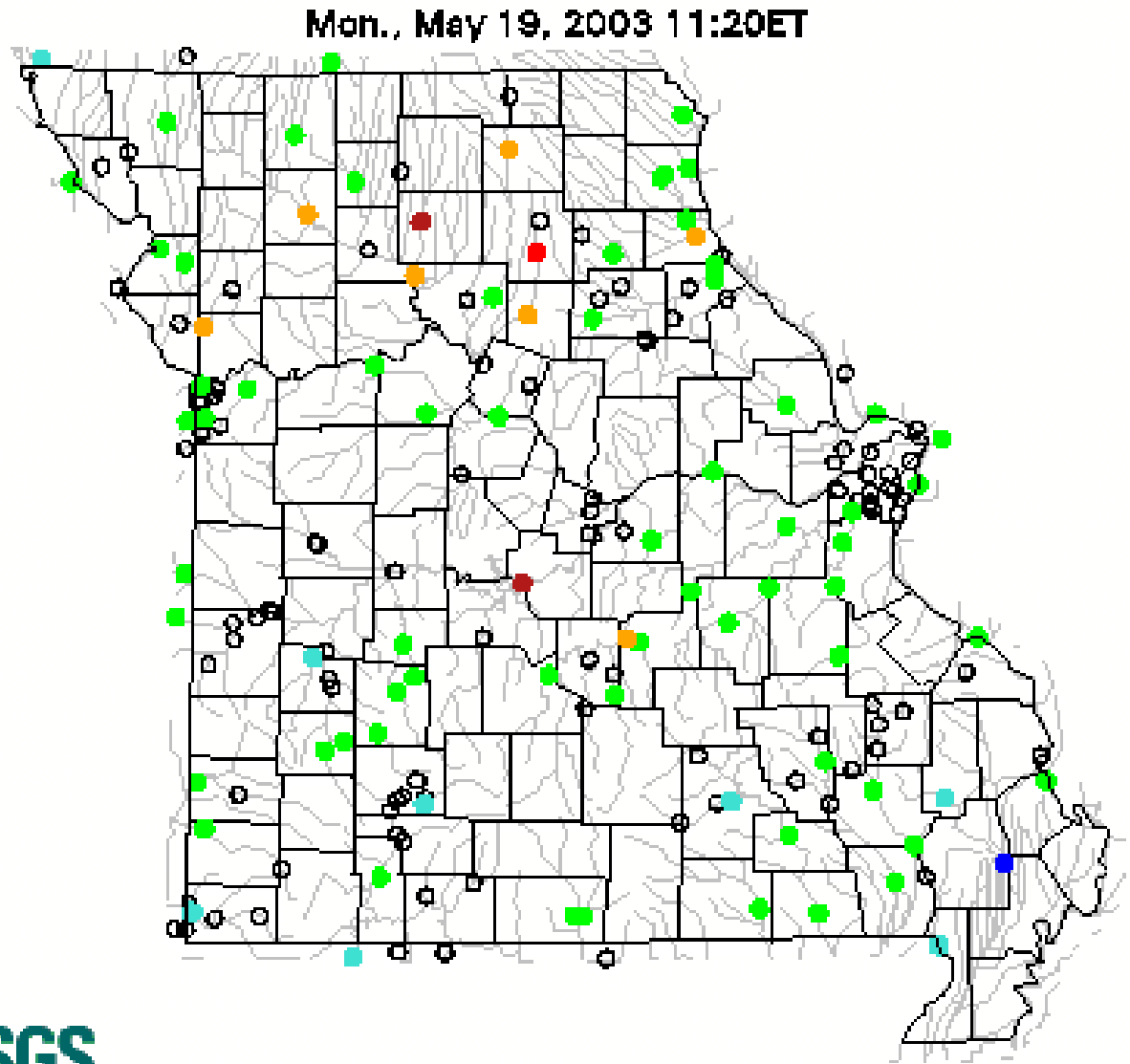
This map approximates impacts that respond to precipitation over several months to a few years, such as reservoir content, groundwater depth, and lake levels.

This map is based on preliminary climate division data. Local conditions and/or final data may differ. **The relationship between indicators and water supplies can vary markedly with location, season, source, and management practices.** Do not interpret this map too literally. See full product description for more details.

NWS/NCEP/ Climate Prediction Center

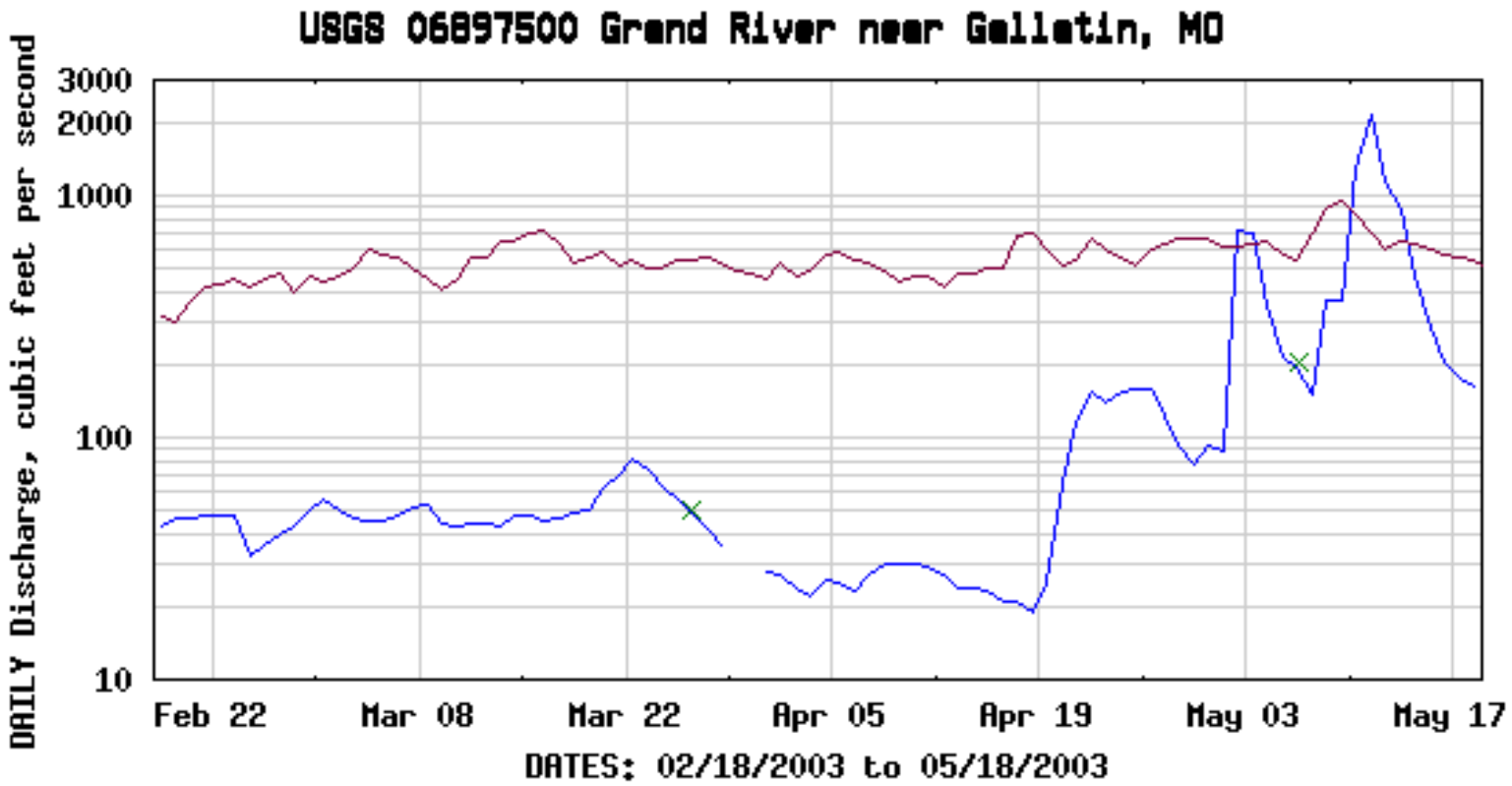
NESDIS/ National Climatic Data Center

USGS DAILY STREAMFLOW



USGS

90 DAY STREAM FLOW



EXPLANATION

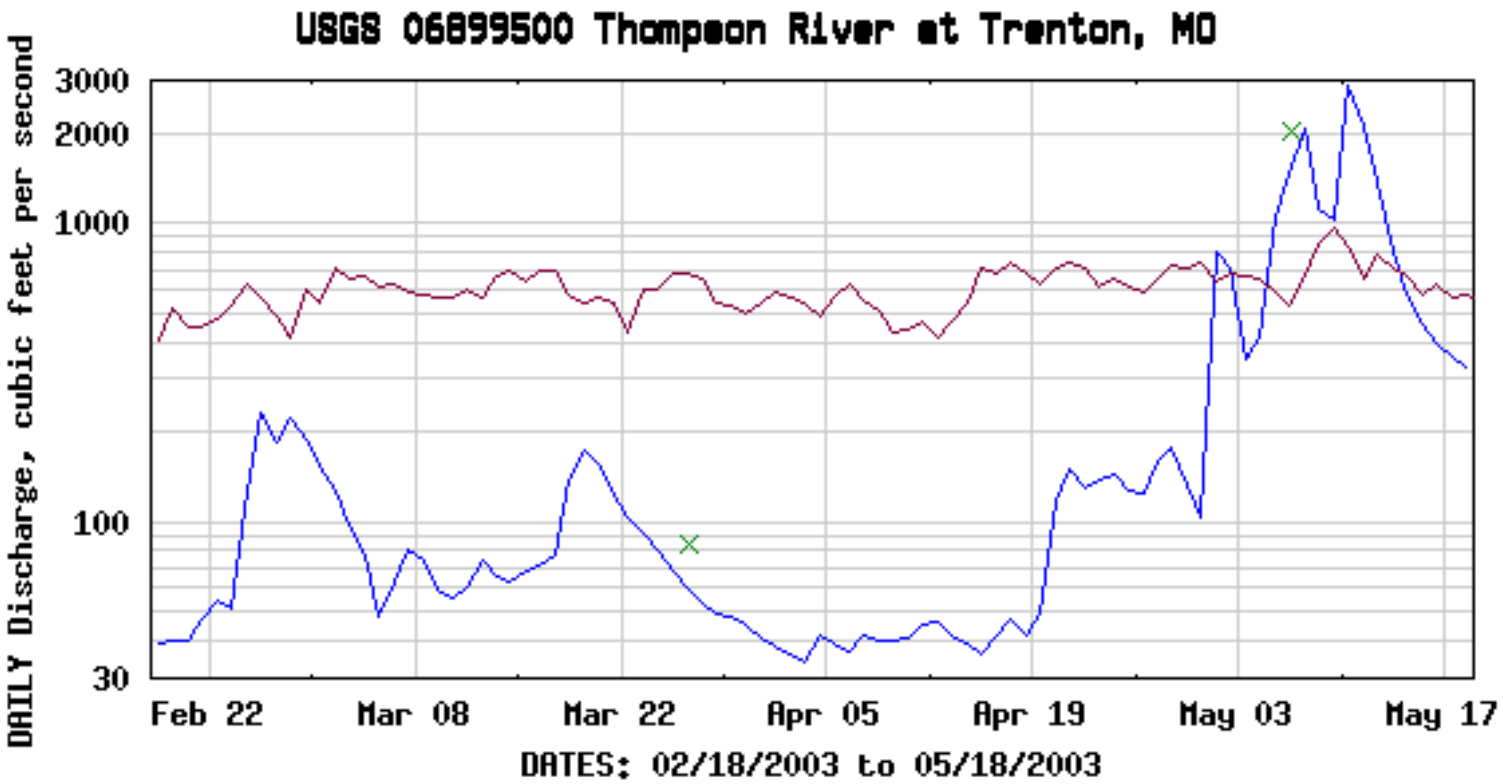
DAILY MEAN DISCHARGE

MEDIAN DAILY STREAMFLOW BASED ON 81 YEARS OF RECORD

MEASURED Discharge

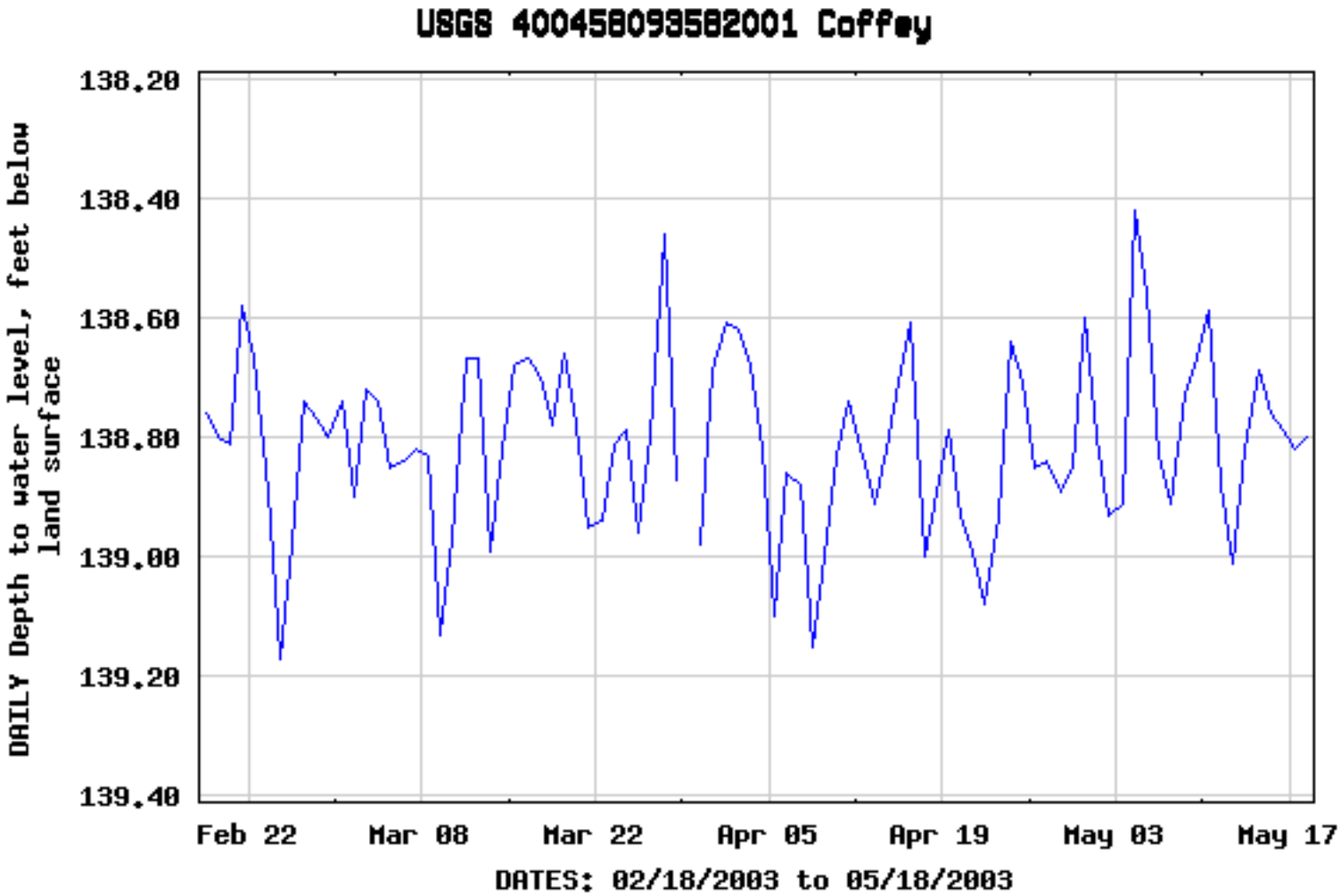
Provisional Data Subject to Revision

90 DAY STREAMFLOW



Provisional Data Subject to Revision

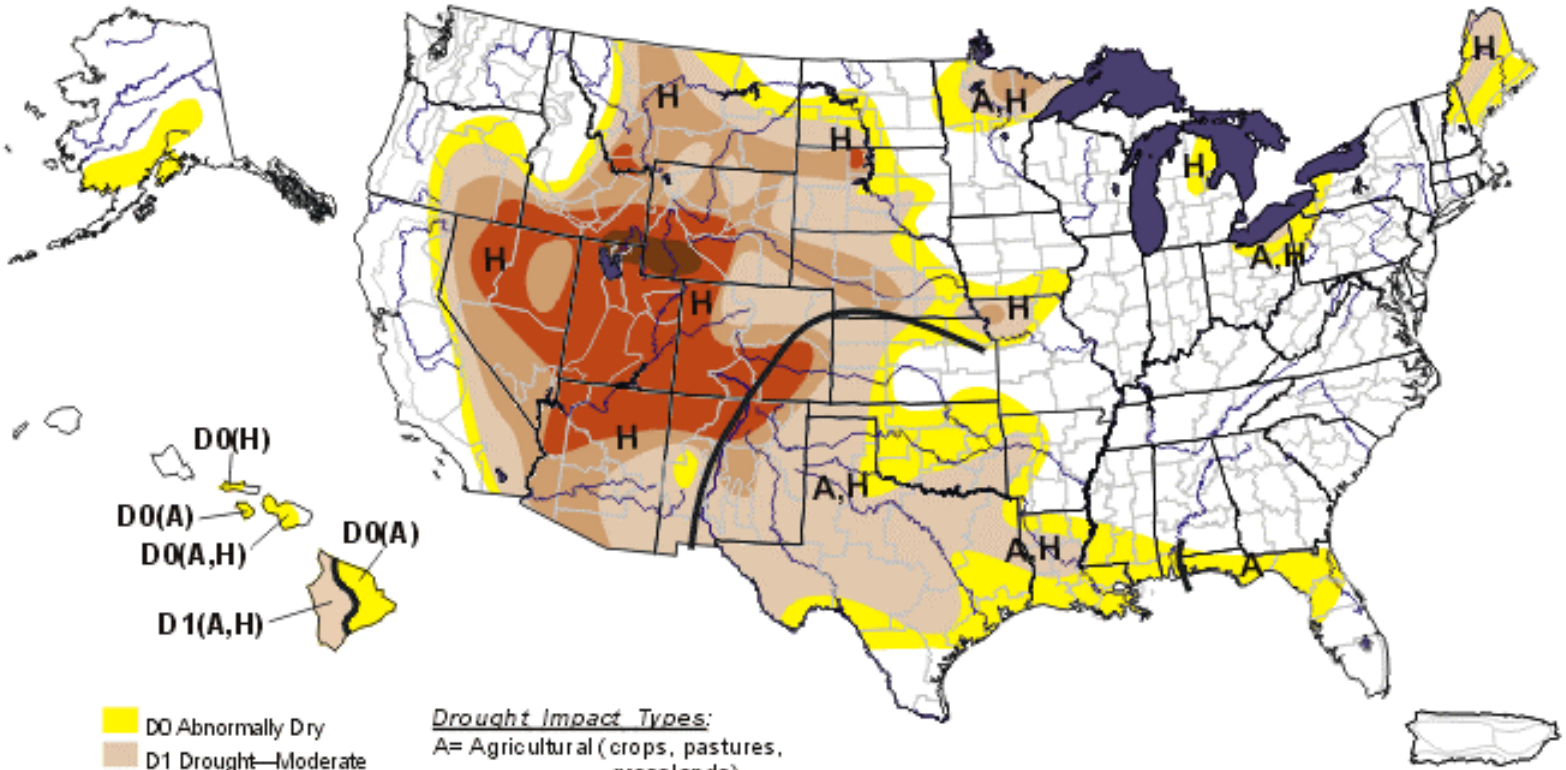
DEPTH TO WATER 90 DAY PERIOD



Provisional Data Subject to Revision

U.S. Drought Monitor

May 13, 2003
Valid 8 a.m. EDT



D0 Abnormally Dry
D1 Drought—Moderate
D2 Drought—Severe
D3 Drought—Extreme
D4 Drought—Exceptional

Drought Impact Types:
A= Agricultural (crops, pastures, grasslands)
H= Hydrological (water)
Delineates dominant impacts
(No type = both impacts)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://drought.unl.edu/dm

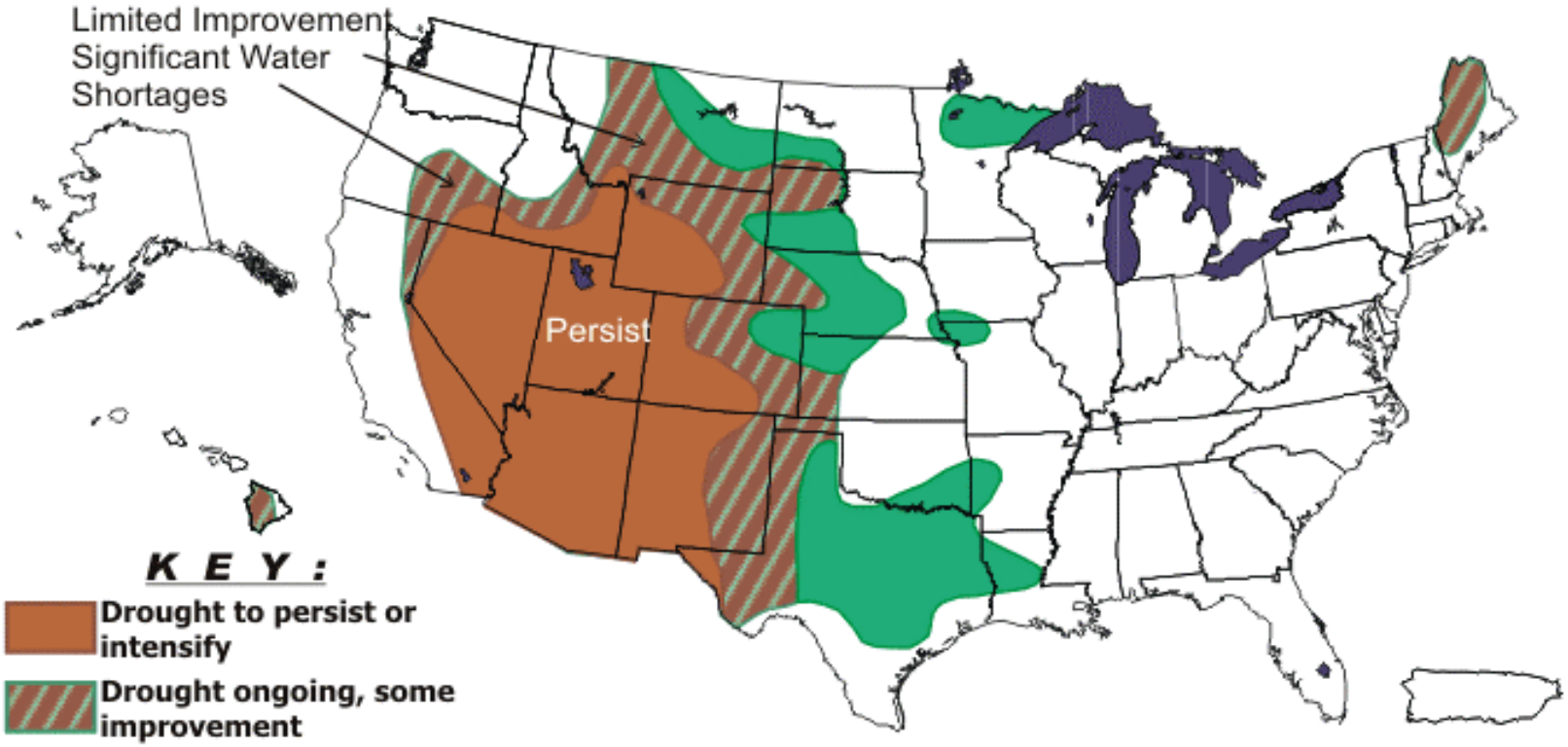
Released Thursday, May 15, 2003

Author: *Rich Tinker, NOAA's Climate Prediction Center*

U. S. Seasonal Drought Outlook

Through August 2003

Released May 15, 2003

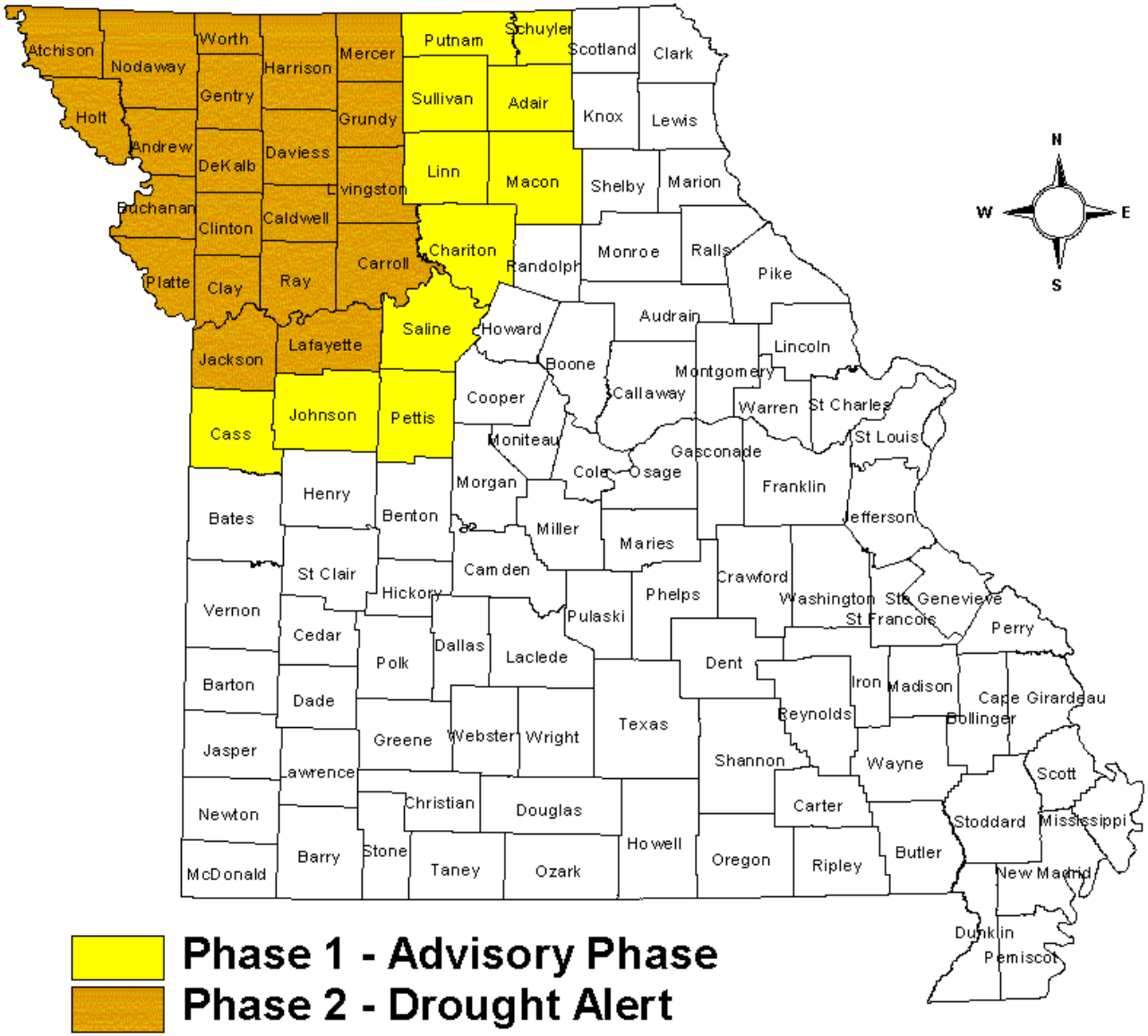


K E Y :

- **Drought to persist or intensify**
- **Drought ongoing, some improvement**
- **Drought likely to improve, impacts ease**
- **Drought development likely**

Depicts general, large-scale trends based on subjectively derived probabilities guided by numerous indicators, including short and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance, so use caution if using this outlook for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are schematically approximated from the Drought Monitor (D1 to D4). For weekly drought updates, see the latest Drought Monitor map and text.

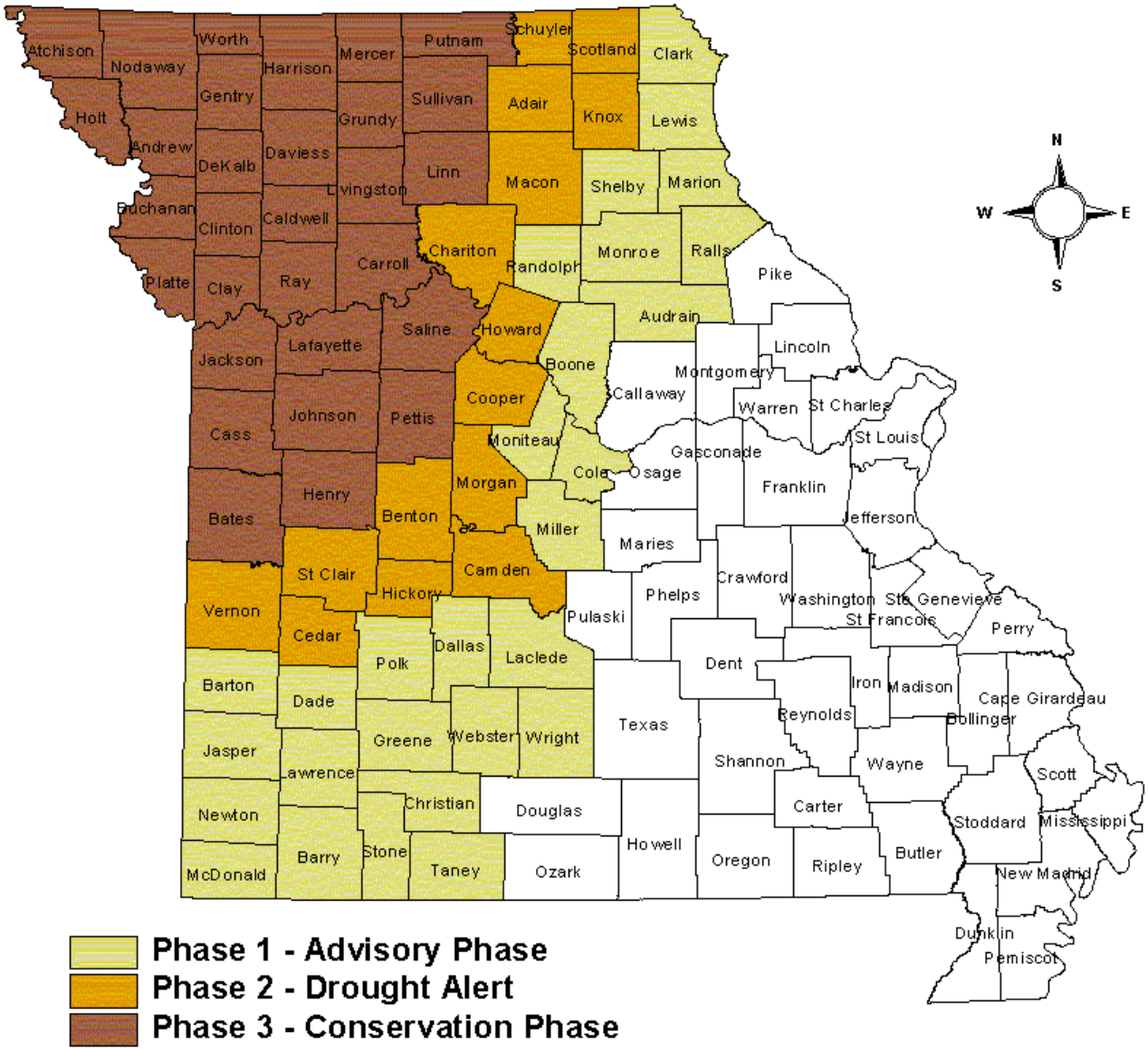
Recommended Drought Condition Status (May 16, 2003)



Phase 1 - Advisory Phase

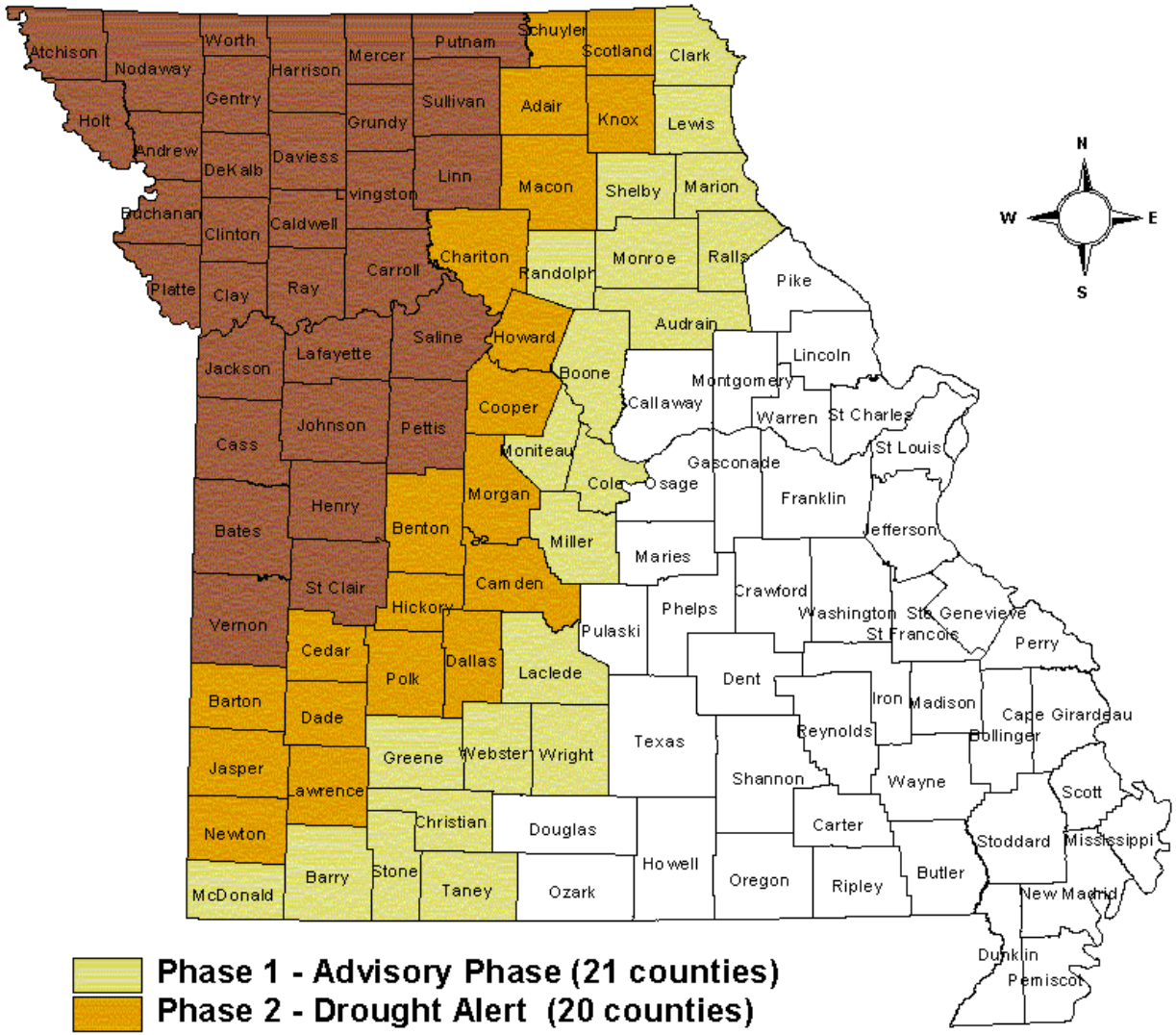
Phase 2 - Drought Alert

Drought Condition Status (April 1, 2003)



Phase 1 - Advisory Phase
Phase 2 - Drought Alert
Phase 3 - Conservation Phase

Drought Condition Status (March 4, 2003)



Phase 1 - Advisory Phase (21 counties)
Phase 2 - Drought Alert (20 counties)
Phase 3 - Conservation Phase (32 counties)